

Hungry Lion Resource Management Project

Introduction

The Hungry Lion Resource Management Project was developed to address multiple resource objectives in an area on the Hungry Horse Ranger District of the Flathead National Forest. An interdisciplinary team of resource specialists spent the last year conducting field reviews on National Forest System (NFS) lands east of the Flathead River and north of the Hungry Horse Reservoir. In September 2016, the district sent out a request for information to landowners within a half-mile of the project area and other interested parties. The team used the input they received from the public and information they gathered during field review to develop recommendations to help move the area towards a desired condition as provided by the 1986 Flathead Forest Plan. These recommendations were further fine-tuned into management actions that will be taken into a formal planning process beginning with this proposed action.

Project Area

This project area is approximately 37,090 acres in size and is bounded to the northwest by the communities of Hungry Horse, Martin City, and Coram, to the south by Hungry Horse Reservoir and to the east by the Great Bear Wilderness (refer to Map 1 - Vicinity Map). The project area includes the 7,500 acre Coram Experimental Forest and Coram Research Natural Area www.fs.fed.us/rm/coram/. Approximately 32 percent (12,122 acres) of the project area is located within the Wildland Urban Interface (WUI) and has been identified as a high priority for treatment. This is due to the concentration of private dwellings adjacent to NFS lands and to the potential for fires starting in or spreading from these NFS lands. These potential fires may not necessarily be an abnormal occurrence from an ecological standpoint; however, the loss and damage that they might inflict on human and other resource values could be significant and would be considered unacceptable by many.

This project area includes the Coram Lake Five and Emery Firefighter Grizzly Bear subunits. A grizzly bear subunit is an area that approximates the size of a female home range and is commonly used to analyze the status of habitat security for grizzly bears. The project area also includes four lynx analysis units (LAUs) and approximately 6,563 acres of the Bear-Marshall-Scapegoat-Swan Inventoried Roadless Area (IRA).

Management Areas

The Forest Plan uses management areas (MAs) to guide management of National Forest System lands within the Flathead National Forest. The Forest has been divided into twenty-two MAs, each with different management goals, and resource potential and limitations. The following MAs in the project area may be affected by proposed management activities:

MA 2A - Consists of unroaded lands suited for dispersed recreation that meet the ROS (Recreation Opportunity Spectrum) of primitive.

MA 4 - Consists of all campgrounds, picnic areas, boat launches, and other developed recreation sites.

MA 7 - Consists of timberlands in areas of high scenic value.

MA 9 - Consists of timberlands capable of providing white-tailed deer winter habitat.

MA 10 - Consists of lands designated as Administrative Sites.

MA 12 – Includes riparian areas consisting of aquatic, riparian, and a portion of terrestrial ecosystems.

MA 13 - Consists of timberlands capable of providing mule deer and elk winter habitat.

MA 13A - Consists of nonforest lands capable of providing mule deer and elk winter habitat.

MA 14 - Consists of land designated as the Coram Experimental Forest

MA 15 - Consists of timberlands where timber management with roads is economical and feasible.

MA 16 - Consists of timberlands where timber management is feasible through the use of aerial logging systems.

The Flathead National Forest is in the process of revising its Forest Plan. This project will be analyzed under the 1986 Flathead National Forest Plan. If a decision is made on the Revised Forest Plan before the completion of this project, the project will demonstrate compliance with the new forest plan at that time.

Purpose and Need of the Project

The Hungry Lion Resource Management Project seeks to address the following purposes and needs in the project area:

1. Maintain or improve the diversity and health of forest vegetative communities by:
 - a. Increasing forest structural and species diversity, including the restoration of western white pine and ponderosa pine as a major member of forest communities;
 - b. Improving the resistance of forest vegetation to potential future disturbances (wildfire, disease or insect infestations) and climate change; and
 - c. Reducing tree densities and improving growth on remaining trees;
 - d. Promoting mid-seral stands into old growth habitat; and
 - e. Restoration of whitebark pine through the use of prescribed fire and planting.
2. Reduce the risk to wildland firefighters and residents of the wildland urban interface should a fire occur by:
 - a. Creating forest stand conditions that lower the risk of future high-intensity and high-severity wildfire.
 - b. Creating defensible space along open system roads by creating shaded fuel breaks to improve firefighter safety and effectiveness of suppression tactics in the face of longer and hotter fire seasons.
3. Maintain or improve timber productivity on suitable lands and provide a variety of wood products to the local economy.
4. Maintain, improve, or restore hydrologic processes, water quality, and aquatic habitat throughout the project area by reducing road/stream interaction by:

- a. Improving aquatic organism passage (AOP) in Abbott Creek, South Fork Abbott Creek, an unnamed tributary to Emery Creek, and Hungry Horse Creek.
 - b. Improve flow capacity at stream crossings by replacing culverts and rerouting roads where necessary.
- 5. Increase recreational opportunities and improve visitor safety at developed and dispersed recreation sites by:
 - a. Increasing recreational opportunities and improve traffic flow at the North Lion Lake Day use area
 - b. Add user created trails to the NFS trail system to aid in responsible resource management.

Proposed Action

The proposed action is a strategy to satisfy the purposes and needs for action as described above. Table 1 provides a summary of the components of the proposed action. Following the table is more information related to these components.

Table 1. Summary of proposed action components

Proposed Vegetation Treatments	Acres
Seedtree	1,331 acres
Shelterwood	85 acres
Commercial Thin	1,652 acres
Shaded Fuel Breaks	90 acres
Special Cut (Recreation Areas)	77 acres
Group Selection Cut	60 acres
Total Proposed Commercial Harvest	3,295 acres
Sapling Thin	608 acres
Understory Removal	278 acres
Prescribed Burning (Ecosystem Burns)	759 acres
Total Proposed Non-Commercial Harvest	1,645 acres
Proposed Road and Recreation Management	
Roads to receive Best Management Practices	57 miles
Historic roads to be added to the system in Intermittent Stored Service	7.6 miles
Temporary Roads	8.1 miles
Road reroute to improve aquatic habitat	1 mile
Proposed Non-motorized Trail	12 miles
Aquatic Improvements on System Roads (Culvert Upsizing/AOP Structures)	15 activities

A. Proposed Vegetation Treatments

In order to improve the diversity and health of forest vegetative communities; reduce the risk to wildland firefighters and residents of the wildland urban interface; and maintain timber productivity on

suitable lands that provide a variety of wood products to the local economy, several different silvicultural prescriptions have been proposed:

Seedtree (ST): This treatment would remove all but a few trees per acre to create the open stand conditions required for successful regeneration of a healthy new stand of desired species such as western white pine or western larch. Trees removed would be of all sizes, with many providing a commercial wood product. About 5 to 15 trees per acre of the larger overstory trees, usually western larch or Douglas-fir, would be left on the site to provide a seed source for regeneration and long term structural diversity. A seedtree harvest is proposed in stands that are currently not meeting desired conditions, commonly due to poor stand growth, insect or disease activity, or lack of preferred tree species. Regeneration harvests will also be planted with desirable species, further described on p. 12 of this proposed action. There are about 1,331 acres of ST harvest in 47 separate units in the proposed action.

Shelterwood (SW): As with the seedtree harvest, this treatment is proposed where stands are not currently meeting desired conditions, but where it is preferable to leave greater numbers of trees for seed or other resource reasons, and to provide a more sheltered environment for seedling regeneration and growth. Trees of all sizes, including commercial size, would be removed, leaving about 20 to 30 trees per acre of the larger overstory trees. This would create a two-storied semi-open stand condition where sufficient light would exist to maintain health and growth of the new seedlings. Leave trees would typically be western larch or Douglas-fir. As with a seedtree harvest, these leave trees would be reserved to provide long-term stand structural diversity. There are about 85 acres of SW harvest in 5 separate units in the proposed action.

Commercial Thin (CT): This treatment removes a portion of the existing trees, but retains sufficient numbers to leave a relatively well-stocked forest. The purpose is not to regenerate a new stand of trees, but rather to improve or maintain the health and growth of the existing stand by enlarging the growing space of desired trees, reducing competition for limited site resources and removing insect or disease infested trees. Trees removed would be of all sizes, with some providing a commercial wood product. Leave tree stocking after treatment would typically range from about 75 to 120 trees per acre. Western larch and Douglas-fir would be favored for retention, as they are typically among the larger and more long-lived trees on the site, and are resistant to fire. The proposed action includes about 1,652 acres of CT harvest in 31 separate units.

Special Cuts (SpecCut): These treatments would occur at recreation sites (campgrounds and dispersed sites). Treatments would be unique to the individual site. Generally, treatments would entail a relatively light and very selective removal of trees of all sizes, focusing on hazard trees, insect or disease infested trees, viewing and screening opportunities, long-term desired forest health and species compositions, and other site specific features related to the recreational objectives. The proposed action would treat 4 recreational sites, totaling about 77 acres.

Sapling Thin (PCT): This treatment, also called pre-commercial thinning, is similar to the commercial thin except it occurs in young stands less than 35 years old where trees are small and do not provide a commercial product. A portion of the existing trees are removed, leaving a relatively well-stocked forested condition. The main purpose is to maintain or improve current and future stand health, growth, species compositions and tree sizes. The proposed action includes about 608 acres of sapling thinning in 25 separate units. The units outside of the WUI would focus on removal of competing trees in the immediate vicinity of selected

western white pine trees. Trees would be cut around the western white pine trees in a radial pattern, commonly called “daylight thinning,” with the treatment affecting no more than 20 percent of the stand area. This would comply with the Northern Rockies Lynx Management Direction (NRLMD), which limits thinning in stands that provide winter snowshoe hare habitat.

Shaded Fuel Breaks (SFB): A shaded fuel break is a forest management strategy used for mitigating the threat of wildfire in areas where natural fire regimes have been suppressed, leading to a dangerous buildup of combustible vegetation. Constructing a shaded fuel break is the process of selectively thinning and removing more flammable understory vegetation while leaving the majority of larger, more fire tolerant tree species in place. These stands may remain forested or be regenerated depending on species composition. Fuel breaks are not expected to control a fire in themselves, but provide points of access to facilitate control of the flanks and provide possible backfire ignition points in the face of an advancing fire front. The shaded fuel breaks along NFS Road 38 will also increase sight distances and reduce road hazards in the areas where shaded fuel breaks are created. The proposed action includes about 90 acres of shaded fuel breaks in 6 separate units along NFS Road 38.

Understory Removal (USR): This treatment is similar to the commercial thin except the trees removed are small and do not provide a commercial product. A portion of the existing trees are removed, leaving a relatively well-stocked forested condition. The main purpose of this treatment is to reduce ladder fuels. The proposed action includes about 278 acres of understory removal in 5 separate units.

Group Selection (GS): This treatment is an uneven-aged regeneration method in which trees of all sizes are cut in small groups. The groups will be 2-4 acres in size and located throughout the unit. Additionally, the area between these groups will be commercially thinned as described above. The proposed action includes about 60 acres of group selection cuts in two separate units.

Adapted Silviculture for Climate Change Research

Six vegetation treatment units within the proposed action will be treated as part of an Adapted Silviculture for Climate Change Research (ASCC) research project. The ASCC project represents an effort to establish a series of experimental silvicultural trials in 4-5 distinct forest types across the eastern and western United States. Each trial will serve as part of a multi-region study focused on understanding long-term ecosystem responses to several broad-spectrum climate change adaptation options. The research units include three treatment types: seedtree, commercial thin, and group selection as described above. The ASCC project within the Hungry Lion Project area is focused on ecosystem responses in the western larch forest type.

Table 2 provides a listing of the proposed vegetation treatments.

Table 2. Proposed Treatment Units*

Unit	Acres	Silviculture Treatment	Reforestation Method	Logging Method	Fuels Treatment	MA
1	11	Commercial Thin	NA	Tractor	WTY	12
2	26	Commercial Thin	NA	Tractor	WTY	15
3	74	Seed Tree	NR	Tractor	MECH	14/15
4	48	Commercial Thin	NA	Tractor	WTY	15

Unit	Acres	Silviculture Treatment	Reforestation Method	Logging Method	Fuels Treatment	MA
5	148	Commercial Thin	NA	Tractor	WTY	14/15
6	33	Commercial Thin	NA	Tractor	WTY	12/15
7	18	Shelterwood	PLANT PP	Tractor	BB	15
8	11	Seed Tree	PLANT PP	Skyline	BB	15
9	34	Commercial Thin	NA	Tractor	WTY	15
11	495	Commercial Thin	NA	Tractor	WTY	10/12/14/15
12	13	Shelterwood	NR	Tractor	MECH	12/15
13	53	Commercial Thin	NA	Tractor	WTY	4/9/12
14	63	Commercial Thin	NA	Tractor	WTY	15
16	17	Seed Tree	PLANT PP	Skyline	BB	7/12
16A	4	Seed Tree	PLANT PP	Tractor	BB	7
17	35	Seed Tree	NR	Skyline	BB	7/14
18	10	Commercial Thin	NA	Tractor	WTY	4/7/12
19	83	Commercial Thin	NA	Tractor	WTY	7/12/15
20	13	Commercial Thin	NA	Tractor	WTY	7/12/15
21	9	Shelterwood	NR	Tractor	MECH	7/12
22	4	Seed Tree	NR	Tractor	MECH	7
22A	8	Seed Tree	NR	Skyline	BB	7/15
23	13	Special Cut for Recreation Site	NA	Tractor	WTY	4/7
25	53	Special Cut for Recreation Site	NA	Tractor	WTY	4/7/12/15
26	9	Commercial Thin	NA	Tractor	WTY	7/12/13/15
27	4	Commercial Thin	NA	Tractor	WTY	15
29	26	Commercial Thin	NA	Tractor	WTY	13/15
30	127	Seed Tree	PLANT WP	Tractor	MECH	7/13
31	12	Seed Tree	PLANT WP	Tractor	MECH	15
32	84	Seed Tree	PLANT WP	Tractor	MECH	13/14/15
33	51	Commercial Thin	NA	Tractor	WTY	14/15
34	19	Seed Tree	PLANT PP	Skyline	BB	15
34A	3	Seed Tree	PLANT PP	Tractor	BB	15
35	13	Seed Tree	PLANT WP	Tractor	MECH	15
35A	19	Seed Tree	PLANT WP	Skyline	WTY	7/15
35B	20	Seed Tree	PLANT WP	Tractor	MECH	7/15
37	18	Seed Tree	NR	Skyline	BB	7/13
37A	5	Seed Tree	NR	Tractor	MECH	7/13
38	20	Shelterwood	PLANT PP	Skyline	BB	7/13
39	37	Commercial Thin	NA	Tractor	WTY	7/13/15
40	29	Seed Tree	PLANT WP	Tractor	MECH	7/13/15
41	18	Seed Tree	PLANT PP	Skyline	BB	13
41A	15	Seed Tree	PLANT PP	Tractor	BB	13/15

Unit	Acres	Silviculture Treatment	Reforestation Method	Logging Method	Fuels Treatment	MA
43A	1	Seed Tree	PLANT PP	Tractor	BB	7/13
45	16	Commercial Thin	NA	Tractor	WTY	7/15
46	17	Seed Tree	PLANT WP	Tractor	MECH	12/15
50	10	Seed Tree	NR	Skyline	BB	14/15
50A	2	Seed Tree	NR	Tractor	MECH	14
50B	9	Seed Tree	NR	Tractor	MECH	14
51	19	Seed Tree	PLANT WP	Tractor	MECH	12/15
52	9	Seed Tree	PLANT WP	Tractor	MECH	12/15
54	34	Seed Tree	PLANT WP	Skyline	BB	12/15
55	53	Seed Tree	PLANT WP	Skyline	BB	12/15
56	51	Seed Tree	PLANT PP	Skyline	BB	15
56A	9	Seed Tree	PLANT PP	Tractor	BB	15
57	51	Seed Tree	PLANT PP	Skyline	BB	12/15
58	28	Commercial Thin	NA	Tractor	WTY	12/15
59	99	Seed Tree	PLANT WP	Tractor	MECH	12/15
60	22	Commercial Thin	NA	Tractor	WTY	12/15
61	15	Commercial Thin	NA	Tractor	WTY	15
62	18	Commercial Thin	NA	Skyline	WTY	15
62A	6	Commercial Thin	NA	Tractor	WTY	15
63	6	Seed Tree	PLANT WP	Tractor	MECH	14/15
66	19	Commercial Thin	NA	Tractor	WTY	12/15
68	71	Seed Tree	PLANT WP	Tractor	MECH	12/15
71	16	Seed Tree	PLANT WP	Skyline	BB	12/15
71A	6	Seed Tree	PLANT WP	Tractor	MECH	15
73	42	Seed Tree	PLANT WP	Tractor	MECH	12/15
75	35	Seed Tree	PLANT WBP	Skyline	BB	12/13A/14
76	30	Commercial Thin	NA	Tractor	WTY	12/15
77	81	Commercial Thin	NA	Tractor	WTY	12/15/16
78	119	Commercial Thin	NA	Tractor	WTY	12/15/16
80	4	Special Cut for Recreation Site	NA	Tractor	WTY	2C/4/12
81	6	Special Cut for Recreation Site	NA	Tractor	WTY	4/12
82	69	Commercial Thin	NA	Winter Tractor	WTY	12/15
83	30	Commercial Thin	NA	Winter Tractor	WTY	15/16
84	18	Seed Tree	NR	Winter Tractor	MECH	13/15
85	44	Seed Tree	NR	Winter Tractor	MECH	12/15
86	24	Shelterwood	PLANT PP	Winter Tractor	BB	7/12/15
87	60	Seed Tree	NR	Skyline	BB	12/14

Unit	Acres	Silviculture Treatment	Reforestation Method	Logging Method	Fuels Treatment	MA
87A	14	Seed Tree	NR	Tractor	MECH	14
88	45	Seed Tree	NR	Skyline	BB	12/14
88A	4	Seed Tree	NR	Tractor	MECH	14
89A	12	Shaded Fuel Break	NA	Tractor	MECH	12/14
89B	5	Shaded Fuel Break	NA	Tractor	MECH	12/14
90	23	Shaded Fuel Break	NA	Tractor	MECH	12/15
91A	14	Shaded Fuel Break	NA	Tractor	MECH	7/12/13
91B	25	Shaded Fuel Break	NA	Tractor	MECH	12/15
92	12	Shaded Fuel Break	NA	Tractor	MECH	12/15
100	22	Understory Removal	NA	MECH	MECH	12/15
101	27	Understory Removal	NA	MECH	MECH	15
102	101	Understory Removal	NA	MECH	MECH	15
103	55	Understory Removal	NA	MECH	MECH	14/15
104	73	Understory Removal	NA	MECH	MECH	15
200	84	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
201	31	Sapling Thin	NA	Hand	LOP AND SCATTER	15
202	96	Sapling Thin	NA	Hand	LOP AND SCATTER	15
203	72	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
204	5	Sapling Thin	NA	Hand	LOP AND SCATTER	15
205	10	Sapling Thin	NA	Hand	LOP AND SCATTER	7/13
206	12	Sapling Thin	NA	Hand	LOP AND SCATTER	7/13
207	24	Sapling Thin	NA	Hand	LOP AND SCATTER	7/13
210	14	Sapling Thin	NA	Hand	LOP AND SCATTER	15
211	5	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
212	16	Sapling Thin	NA	Hand	LOP AND SCATTER	13
213	46	Sapling Thin	NA	Hand	LOP AND SCATTER	4/7/12
214	11	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
215	13	Sapling Thin	NA	Hand	LOP AND SCATTER	13
216	3	Sapling Thin	NA	Hand	LOP AND SCATTER	7/12
217	34	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
218	16	Sapling Thin	NA	Hand	LOP AND SCATTER	14/15
220	8	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15

Unit	Acres	Silviculture Treatment	Reforestation Method	Logging Method	Fuels Treatment	MA
221	19	Sapling Thin	NA	Hand	LOP AND SCATTER	14/15
224	13	Sapling Thin	NA	Hand	LOP AND SCATTER	15
225	5	Sapling Thin	NA	Hand	LOP AND SCATTER	15
226	25	Sapling Thin	NA	Hand	LOP AND SCATTER	15
227	14	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
228	20	Sapling Thin	NA	Hand	LOP AND SCATTER	15
229	13	Sapling Thin	NA	Hand	LOP AND SCATTER	12/15
401	32	Group Selection	PLANT PP	Tractor	MECH	9/15
402	35	Seed Tree	PLANT PP, WP	Tractor	MECH	15
403	28	Commercial Thin	NA	Tractor	MECH	15
404	36	Seed Tree	PLANT WP, PP	Tractor	MECH	15
405	26	Commercial Thin	NA	Tractor	MECH	15
406	28	Group Selection	PLANT PP	Tractor	MECH	14/15

*Abbreviations used in the table are as follows:

Logging Method: MECH = ground-based mechanical treatment

Fuel Treatment: MECH = excavator piling or chipping/mastication, WTY = whole tree yarding, BB = broadcast burning

Reforestation: NA indicates not applicable (planting only occurs if the treatment is seed tree or shelterwood). NR=Natural Regeneration. PP=ponderosa pine WL=western larch WP=western white pine WBP=whitebark pine

B. Treatment Methods

Methods of tree removal for units with commercial products would be ground-based mechanized or skyline. Mechanized harvest methods would occur across approximately 2,756 acres, utilizing equipment such as clippers, rubber-tired skidders, and forwarders. Skyline harvest methods would be used on about 539 acres of steeper ground, utilizing cables to yard woody material up to a landing at the top of a unit. Thinning in the young sapling units with no commercial products would occur by hand (chainsaws). Fuels reduction in the understory removal units may occur by hand or with mechanized equipment on 278 acres.

No harvest would occur within Riparian Habitat Conservation Areas (RHCA), in inventoried roadless areas, or within old growth habitat. The regeneration harvest will create openings ranging from 4 to 198 acres, all of which will maintain 600 feet to cover from any point in the unit. Eleven openings will be created that are greater than 40 acres in size and will request approval from the Regional Forester prior to a decision being signed.

There are 186 acres of vegetation treatment proposed within grizzly bear security core. These five units are proposed for treatment with winter harvest during the denning season (Dec 1 to March 31), to be consistent with the Amendment 19 of the Flathead Forest Plan. No motorized activities would occur in grizzly bear security core outside of the denning season, except for the limited work for AOP and culvert upgrades on NFS Roads 546 and 1614 and helicopter use for prescribed burning.

Temporary Roads

Approximately 8.1 miles of temporary roads may be built in order to access some of the units (Map 2 – Proposed Activities). Temporary roads would be constructed to the minimum standards necessary for log hauling on National Forest System Roads (NFSR). Temporary road surface width would be limited to truck bunk width plus 4 feet. Temporary roads would be rehabilitated following use, such that they would cease to function as roads.

Historic Roads to be Stored

The Forest Service is proposing to use approximately 7.6 miles of historic road templates (see Table 1) to access proposed harvest units. Following project activities, these roads will be added to the road system and classified as intermittent stored service (ISS) roads. These historic roads proposed for storage were identified by the interdisciplinary team because they would facilitate harvest activities and long-term resource management in the suitable timber base. Since re-construction of these roads is proposed on historic road templates, construction activities would only involve brushing, best management practices (BMP) work, surface reconditioning and ditch cleaning. There would not be any excavation of new road prisms.

The historic road template that the system road would be re-constructed on is a road surface that was once used for a transportation need but is not currently a part of the National Forest Road System. It has an existing road template that has not been recontoured and is in a state that is largely impassible to full-sized motor vehicles due to waterbars, culvert removals and/or closure by vegetation, earth berm, or other natural closure features, such as a slump or washout. Specified road would be designed only to a level to allow for log haul and would meet BMPs. Design would favor rolling dips over culvert installation.

Following project activities, roads placed in ISS will be thoroughly treated so that they are in a hydrologically inert state and are completely impassable to motorized vehicles. They will meet the minimum criteria for a “reclaimed road” as defined by Forest Plan Amendment 19 and will no longer function as roads, yet these ISS roads will retain a road number and stay on the road system.

Best Management Practices

Approximately 57 miles of road being used for haul routes will receive road maintenance in accordance with Best Management Practices (BMPs) prior to use. The objectives of road maintenance would be to reduce the concentration of subsurface and surface water runoff, minimize road surface erosion, filter ditch water before entering streams, and decrease the risk of culvert failures during peak runoff events. Maintenance work could include culvert installation, replacement of existing culverts with larger culverts, installation of drainage dips and surface water deflectors, placement of rip-rap to armor drainage structures, aggregate surface replacement, aggregate placement to reinforce wet surface areas, ditch construction and cleaning where needed, and surface blading to restore drainage efficiency of the road surface. These actions would bring the roads up to current BMP standards, better accommodate traffic, and reduce deferred maintenance. Best Management Practice activities are typically completed prior to use or required in timber sale contracts prior to hauling of timber over these roads.

Post-Harvest Fuels and Site Preparation Method

All proposed harvest units would have post-harvest treatments designed to reduce forest biomass that is generated either through harvest activity or is naturally occurring in high amounts. In the case of all regeneration harvest units (seed tree and shelterwood) these post-harvest activities would also

prepare the site for reforestation by reducing competing vegetation and creating favorable seed bed conditions. Traditional post-harvest treatments may be used, which include hand, mechanical methods, and the use of prescribed fire. Hand methods would include lopping and scattering of the slash/fuels or hand piling. Mechanical treatments may include one or a combination of the following: whole tree yarding (or possibly yarding of tops alone), excavator piling, or chipping/mastication of fuels across the unit. Fuel accumulations at log landings may be addressed through pile burning, chipping/masticating, and/or removal. Prescribed fire treatments within harvest units to reduce forest fuels could include broadcast burning, pile burning and/or jackpot burning.

Reforestation Method

Where regeneration harvest treatments are proposed (seedtree or shelterwood), a combination of natural and artificial (planting) reforestation is planned. Planting would occur where insufficient natural regeneration of desired species is anticipated, due to lack of seed source or inadequate seedbed conditions, or where restoring ponderosa pine or rust-resistant western white pine is an objective. Western white pine is an important, but declining species in this area, and it will be planted wherever feasible. In addition to western white pine, other species that might be planted include western larch, Douglas-fir and ponderosa pine.

B. Proposed Prescribed Burning (Ecosystem Burns)

There are six proposed prescribed burn units covering approximately 759 acres. The units are all located west of the Great Bear Wilderness and within the Bear-Marshall-Scapegoat-Swan Inventoried Roadless Area. They focus primarily on south or southeast aspects and range from about 4,800 feet in elevation near the bottom of the units, to nearly 7,400 feet elevation at the upper portions of some units. They have been specifically located to take advantage of natural barriers and to prevent undesired fire spread. These barriers include rocky areas near the ridgetops, and north aspects that are less prone to burn in the spring and fall. Details outlining implementation strategies and desired weather conditions for prescribed burning would be described in a future site specific prescribed fire burn plan. This plan would include an analysis of risks and identify mitigation methods to avoid an escaped fire.

Heavily forested conditions exist across most of the area on the more northern and eastern aspects near the prescribed burn units. More open forest and shrub-dominated openings exist in some portions of the burn units, typically on the drier southerly aspects. The prescribed fire treatments would be designed to target the shrub dominated areas of the burn units. The objective of the prescribed burning would be to reduce conifer encroachment into the shrub dominated areas, rejuvenate wildlife browse by stimulating re-sprouting of fire adapted shrubs and grasses, create a more diverse mosaic of vegetation conditions across this landscape, reduce down fuel accumulations, and promote whitebark pine. Whitebark pine occurs at the highest elevations of these prescribed burns and an assessment would be made before prescribed burning to determine any healthy areas of whitebark pine. Efforts will be made to avoid causing mortality from prescribed fire in areas of healthy whitebark pine. Following implementation whitebark pine may be planted where suited for the site conditions.

Implementation of the prescribed burns could extend for several years into the future depending on the occurrences of desirable prescribed burning weather opportunities.

Table 3 provides a listing of the proposed prescribed burning units.

Table 3. Proposed Prescribed Burning Units

Unit Number	Acres	Treatment Method	Forest Plan Management Area
301	73	Helicopter	2A
302	156	Helicopter	2A/12/16
303	78	Helicopter	2A
304	137	Helicopter	2A/16
305	155	Helicopter	2A/16
306	160	Helicopter	2A
TOTAL Acres	759		

C. Aquatic Activities

The project seeks to improve or restore hydrologic processes, water quality, and aquatic habitat throughout the project area by reducing road/stream interaction. This would be accomplished by maintaining, improving, and/or replacing several road culverts within the project area. Culvert replacement within fish bearing stream reaches would utilize structures allowing for aquatic organism passage (AOP) (Map 2 – Proposed Activities).

The culverts on the following roads are identified for this work:

- NFS Road 38 – Hungry Horse Creek (1 AOP)
- NFS Road 1614 – Remington Creek, Strife Creek, and six unnamed tributaries (up to 8 Culverts)
- NFS Road 546 – Unnamed tributary to Emery Creek (1 AOP)
- NFS Road 590A – Abbot Creek (1 AOP)
- NFS Road 590B – Unnamed tributary to Abbot Creek (1 culvert)
- NFS Road 590G – South Fork Abbot Creek (1 AOP)
- NFS Road 10129 – Unnamed tributary to South Fork Abbot Creek (1 culvert)
- NFS Road 10805 – Abbott Creek (1 AOP)

Two road reroutes totaling 1.1 miles are proposed on NFSR 546, the Emery Creek Road, to relocate the existing road out of the floodplain away from Emery Creek. The re-routes would reduce road/stream interaction with Emery Creek an important cutthroat trout stream. This would provide improvements to floodplain and riparian functions in these areas.

Project Specific Forest Plan Amendment

The Hungry Lion Resource Management Project is proposing a site specific forest plan amendment to allow for aquatic improvement activities (culvert work) to occur on NFS Road 1614, the Oliver Margaret Creek Road, which is located within grizzly bear security core and serves as a groomed snowmobile route in the denning season for grizzly bears. This amendment would allow 30 consecutive days of motorized access in grizzly bear core habitat outside of the denning season from July 1 to November 30 for aquatic structure replacement when conditions and funding allow.

D. Proposed Non-motorized Trail

The Hungry Lion Resource Management Project proposes to add trails in the project area to the National Forest Trail System for management and maintenance under partnership agreements. The

district has received requests from the public to expand the non-motorized trail system in the project area. Two areas were identified in the project area as having dispersed recreation routes that currently receive use by the public and would be desirable to add to the NFS trail system. The project proposes to add approximately 12 miles of trail to the system. Approximately 6 miles of trail would be added to the system in the Lion Lake/Lion Hill area and approximately 7 miles of trail would be added to the system in the Desert Mountain area, within the boundaries of the Coram Experimental Forest. Adding these trails to the system would assist in responsible resource management and provide opportunities for management through partnership agreements to maintain these trails to Forest Service standards.

The Desert Mountain trail would occur in close proximity to grizzly bear security core and may affect security core. To offset these effects, the Hungry Lion Project proposes to create replacement acres of security core at the end of NFSR road 590A by placing a berm at approximately milepost 2.7. This berm will be left in place at a minimum of 10 years to provide grizzly bear habitat security. At the end of project activities there will be no net decrease in grizzly bear security core within project subunits

F. Recreation Site Improvement

The North Lion Lake Day Use Area is used for picnicking, fishing, swimming, hiking, and other activities. The district received input from the public regarding their use of this recreation site and a desire to see improvements at the site. The Hungry Lion Resource Management Project proposes to improve parking and traffic flow at the North Lion Lake Recreation Site. The district is also proposing to install a handicap accessible fishing pier to the North Lion Lake Recreation Site to provide increased recreational opportunities for the public at this site while maintaining habitat potential for loons.